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STUDIES IN LEARNING POTENTIAL

STUDIES IN PERSONALITY CORRELATES OF LEARNING POTENTIAL STATUS IN ADOLESCENT EMRS: REACTION TO FRUSTRATION AND SELF-PEER EVALUATION

By

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Summary & Abstract

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A questionnaire and sentence completion test which consisted of hypothetical frustrating situations in the areas of school, peer and parental relations was administered to educable mentally retarded (EMR) groups of nongainers, gainers and high scorers, defined by the Kohs learning potential (LP) procedure. More able (LP) Ss (high scorers and gainers) responded in an actively positive manner to the frustrations, while the less able (LP) Ss (nongainers) responded more passively, tending not to verbalize active attempts to cope with the hypothetical situations. When asked to evaluate themselves against peers of their own choice, nongainers reported themselves as less able; high scorers and gainers as equal to, or better than their friends. These findings are related to other findings with personality variables for the groups by learning potential and their implications are discussed.

STUDIES IN PERSONALITY CORRELATES OF LEARNING POTENTIAL STATUS IN ADOLESCENT EMRS: REACTION TO FRUSTRATION AND SELF-PEER EVALUATION[1]

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As part of an intensive study of a small sample of special class adolescents, a broad range of tasks were administered to educable mental retardates (EMRs) differing in learning potential (LP) status. The intent was to examine, in a preliminary fashion, the relationship of learning potential status to an array of motivational, personality, and cognitive style variables in the same students.

Budoff and Pines (1970) demonstrated that the more able special class adolescents by the learning potential criterion (high scorers and gainers) learned fine motor tasks more rapidly than the less able (LP) nongainers, and tended to show less disruption in their performance on this task following a mild frustration. Pines and Budoff (1970) demonstrated a similar tendency toward less disruption in performance on the Stroop Color Word Test by the more able than less able (LP) Ss. The same Ss were the subjects of the studies reported in this paper.

The present report presents data drawn from four other noncognitive measures--responses to a questionnaire and sentence completion test designed to tap reaction to frustration experienced in the areas of home, school or peer relations, a comparative analysis of teacher's and the child's views of reaction to school frustrations and peer versus self evaluation.

All the responses, except the responses to the self versus peer evaluation, were designed around the central theme of the children's response to hypothetical frustrating situations. The responses to each of these measures

were analyzed along two dimensions: 1) active-passive and 2) positive-negative. The activity described in the response was defined by its relation to the frustrator. If the act was directed toward the frustrator, it was coded as "active." If the act was directed toward oneself or away from the frustrator, it was considered "passive." The positive-negative dimension refers to the social acceptability of the act or the emotion involved. The two dimensions were combined into the following scoring categories:

1. Active-Positive: Acting in a socially acceptable way towards the frustrator.
2. Active-Negative: Acting in a socially unacceptable way towards the frustrator.
3. Passive-Positive: Withdrawal from the frustrator through acting in a socially acceptable way.
4. Passive-Negative: Withdrawal from the frustrator in a socially unacceptable way.

Sample: The sample of 27 special class adolescents, subdivided by learning potential status (N = 9 per group), was used for each of the measures, which were administered individually during several sessions in a long series of contacts by the same E (Pines). All Ss were residents of a low income housing project. They ranged in age from 10 years, 7 months to 16 years, 7 months; and in IQ from 69 to 80. Table 1 presents the means and SDs for these variables by learning potential status.

Insert Table 1 about here

A. Response to Questionnaire

A questionnaire was constructed to assess the child's reaction to hypothetical frustrating situations. The major hypothesis was that the responses to the questionnaire would differentiate among the three learning potential groups. A subsidiary hypothesis investigated whether the learning potential groups would vary in their consistency of response to the same questions across two types of presentations--

open and closed-ended questions. Data from an interview study suggested with very few items that nongainers tend to be more inconsistent responders when asked the same questions in an open and closed-ended format, whereas high scorers and gainers tended to respond more consistently.

Each of the questions posed a hypothetical situation For example: "Sometimes in the classroom when there is a lot of noise and running around, the teacher by mistake may punish the wrong kid. What would you do if you were to be punished for someone else's bad behavior?"

The questionnaire was constructed with three content areas, each containing five questions:

1. Frustrating situations in school (e.g., when the teacher punished you by mistake; when you get a bad mark, etc.).

2. Frustrating situations at home (e.g., when your brother gets something you wanted very much; when your parents don't want to buy you something you want very much, etc.).

3. Frustrating situations in peer relations (e.g., when kids in class pick on you and make fun of you; when your friend is cheating in a game, etc.).

The question was initially presented in an open-ended format and then in a closed-ended format. The following instructions were used in administering the questionnaire:

> I am going to read you some stories. Each one tells about something that may happen to everyone. All I want you to do is to tell me what you would do if something like this would happen to you. There are no wrong or right answers. Your answer will be correct if you say what you would really do. Do you understand? Do you have any questions?

After the child responded to each hypothetical situation, E said:

> Very good. Now, I will read you what different kids say they would do in the same situation. I want you to pick from the four choices the one that would best describe what you would do. Do you understand?

The choices offered were precoded for the four categories of response describing the active-passive, positive-negative options. They were ordered randomly for each question, and the same order was maintained for all Ss. The open-ended responses were coded and assigned to one of the same four response categories.

Results

The answers to the four categories of responses to the questionnaire were subjected to separate analyses of variance in which learning potential status (three levels) and sex (two levels) constituted the between groups variables, and content area (school,friends, parents) and form of question (open versus closed-ended), the within effects. CA and IQ were included as covariates. Table 2 summarizes the F-ratios obtained for the four categories of response. There were no significant F-ratios for the triple or quadruple interactions and these have been omitted from the table.

Learning Potential (LP) The two degrees of freedom associated with LP were analyzed separately for the linear and the quadratic components. The LP argument predicts that the linear continuum of high scorers, gainers and nongainers, describes an ability dimension, from most to least among special class students. The linear component of the LP main effect tests this hypothesis (H_o = high scorers = nongainers). The quadratic component tests a motivational component, more to less accessible to training [H_o = gainers = (high scorers + nongainers)/2].

Analysis of three components of the main effect for LP indicated significant effects for linear and quadratic components for passive-negative, passive-positive, and active-positive situations ($F_{1/21}$ = 17.04, 10.16, 37.38,

$p < .01$, for the linear component, and $F_{1/21} = 8.50$, 15.85, and 54.03, $p < .01$, for the quadratic components for these response categories, respectively). Reference to Table 3 indicates that gainers and high scorers gave many fewer responses coded in the passive categories than the non-gainers and many more coded "active-positive." Gainers gave the fewest passive and the most active-positive responses. In the quadratic component comparisons, when the response totals of high scorers and nongainers were pooled and compared with those of the gainers, these differences were significant. Reference to Table 3 indicates, however, that the responses of the gainers and high scorers were very similar. There were no systematic differences in responding in the active-negative mode by learning potential status.

Insert Tables 2 and 3 about here

High scorers and gainers gave more passive-negative responses to peer and family rather than school situations, unlike the nongainers who were most negative toward school. Gainers and high scorers responded more positively to school situations than the nongainers (LP_{lin} x content area interaction, $F_{2/107} = 8.59$, $p < .01$, for passive negative responses and $F_{2/107} = 3.95$, $p < .05$ for active-positive responses).

Regardless of the active or passive distinctions, boys gave more positive responses than girls, who gave more negative statements (see sex main effect, Table 2). When considered within the context of LP status, the gainer girls gave more active-positive and fewer active-negative responses than the high scorer and nongainer girls. Gainer boys gave fewer active-positive and more active-negative answers than the high scorer and nongainer boys ($LP_{quadratic}$ x sex interaction, $F = 5.712$, $p < .05$, $F = 7.928$, $p < .01$ for active-negative and active-positive categories, respectively. It

is difficult to interpret these sex differences by LP groups, unless these patterns are characteristic of other samples.

Most active-positive answers were given to frustrating school situations, the second greatest number of frustrations at home, and the least to friends; while more active-negative answers were given to questions regarding friends, than to parents or school (least). Most passive-positive answers were given to items relating to parents, fewer to friends and the least for school items. These results make sense since clearly peer relations permit the greatest latitude, and school the least latitude for negative behaviors (see main effect for content areas, Table 2).

Response to Open Versus Closed-Ended Questions. A subsidiary question concerned the consistency of responses across the open and closed-ended conditions. It has been observed that nongainers tend to be inconsistent verbal responders in an interview situation, especially as the questions became more specific. There was a significant main effect for open and closed-ended responses only in the passive-positive category, probably because of the popularity of "don't care" responses among the forced choices (open versus closed-ended main effect, passive-positive category $F_{1/107} = 5.54$, $p < .05$). In comparison with high scorers and nongainers, the gainers give more passive-negative answers to the closed-ended choices ($LP_{quadratic}$ x open versus closed-ended, $F_{1/107} = 4.34$, $p < .05$).

When the discrepancies in the coded choices given to the open and closed-ended questions were summed over each S's responses to the 15 questions, high scorers and gainers gave the fewest discrepant choices (mean scores were 5.44 and 4.11), while nongainers' responses tended to be more discrepant (mean of 9.44; $F_{2/24} = 24.15$, $p < .001$). This finding of discrepant responding across the two modes of response to the same situations indicates the nongainer does tend to be an inconsistent responder. By contrast, the gainer and high scorer tends to stick to his answer even if, as in the forced choice situation, he realized that there was another answer that he preferred. The

nongainer seemingly either did not care if he did change his answer, did not even realize that he was giving another answer, or was more flippant in his verbal responses.

B. Sentence Completion Test Twenty incomplete sentences which covered four content areas (five items per area) constituted this task. A special effort was made to have the questions parallel those in the questionnaire.

1. Frustrating situations in school (e.g., when others in school were doing better than Joey did; when Jack failed in school, etc.);

2. Frustrating situations in peer relations (e.g., when everybody laughed at Peter; when Jim's friends told the teacher about him);

3. Frustrating situations in relation to father (e.g., when Jim's father was very mad at him; when Bill's father saw the failing mark on his report card);

4. Frustrating situations in relation to mother (identical to those referring to the father).

The responses were coded in the same way as the questionnaire, along the two dimensions of active-passive (acting toward the frustrator versus away from the frustrator or towards oneself) and positive-negative (socially acceptable or socially unacceptable reactions).

The hypothesis was that the responses to the sentence completion items would discriminate among the three learning potential groups.

Procedure This task was given first in the same session as the questionnaire. The examiner read the following instructions:

> I am going to read you the beginning of some sentences and I want you to try and finish these sentences. Don't think for a long time, just say the first thing that comes to your mind. There are no wrong or right answers. Your answer will be correct if you say what comes to your mind first. Do you understand? Have you any questions?

Results

The coded responses were subjected to analyses of variance for the four response categories. Learning potential (LP) status (three levels) and sex (two levels), constituted the between groups variables, and content area (school, friends, father, mother), the within effect. Age and IQ were included as covariates. The two degrees of freedom associated with learning potential were analyzed separately for the linear and the quadratic components. The summary table of F-ratios for the four response categories are presented in Table 4.

Insert Table 4 about here

Again, the major hypothesis was supported. Membership in a LP status group was associated with differing types of responses. As with the questionnaire, nongainers' completions were more often passive-negative when compared to high scorers (LP_{lin} main effect, $F_{1/21} = 30.23$, $p < .001$). High scorers gave more active-negative and positive responses than nongainers (LP_{lin} component, $F_{1/21} = 5.69$, $p < .05$, and 16.30, $p < .01$ for the two categories, respectively). When gainers' responses were compared with those of the high scorers and nongainers, the significant quadratic components indicated that gainers gave fewer passive-negative and more active-positive responses than the high scorers and nongainers (LP main effect, quadratic component, $F_{1/21} = 34.94$, $p < .001$, and 25.42, $p < .001$, for the two categories, respectively). Again these effects seem mainly due to the deviant pattern evidenced by the nongainer. There was relatively little difference between high scorers' and gainers' means.

Girls responded in the active-negative mode more often than boys (Sex, main effect, $F_{1/21} = 13.78$, $p < .01$). High scorer females gave more active-negative sentence completions than the gainer and nongainer female, while the high scorer male gave fewer active-negative completions than the gainer and nongainer male (LP_{lin} x Sex interaction, $F_{1/21} = 6.47$, $p < .05$).

Passive-positive completions were attributed more often to parents, and least often to school (Situations, main effect, $F_{3/63} = 4.15$, $p < .05$); items describing school and parent situations received the fewest active-negative completions, while items describing friends received the most such completions (Situations, main effect, $F_{3/63} = 5.26$, $p < .01$).

C. Teacher's Versus Child's View of School In the study of reaction to frustration among educable mentally retarded children, it seemed extremely important to have some sort of objective evaluation of the children's actual behavior as a check on their verbal behavior. This was available in relation to school behavior. A teacher who partially taught the two classes which included all the Ss, and who seemed to have a good understanding of the children, evaluated the child's reaction to frustration on the same hypothetical school situations as the child had completed about himself on the questionnaire. The teacher's evaluations were categorized along the same dimensions as the answers given by the children; namely, active-passive and positive-negative.

Results

Teacher versus child's view of frustrating experiences in school was analyzed in an analysis of variance design with learning potential status (three levels) and sex (two

levels) as the between groups main effects. CA and IQ were included as covariates for each of the response categories.

The most salient finding concerned the marked differences in how the teacher and child perceived the child's response to school frustrations. The teacher tended to view the children as significantly more active-negative than the children, who viewed themselves as more active-positive.

The significant differences among the three LP groups for their own characterizations of themselves in the active-positive response mode (LP_{lin} $F_{1/21} = 9.05$, $p < .01$, LP_{quad} $F_{1/21} = 10.65$, $p < .01$) may be accounted for by the children's desire to please the E, and/or to portray themselves as dealing with frustration more adequately than the teacher-rater viewed them. Whatever the best explanation, the high scorer and gainer viewed themselves as more active-positive than the nongainer, the gainers giving the most active-positive responses. The difference between the students' and teachers' evaluations is significant. The LP_{lin} x reporter interaction ($F_{1/21} = 12.43$, $p < .01$), indicates the high scorers give more active-positive answers than the nongainer, but the teacher views them as less active-positive; and similarly, the LP quadratic x reporter interaction ($F_{1/21} = 6.19$, $p < .05$) indicates the gainers give more active-positive answers than the high scorers and nongainers combined; the teacher views them as less active-positive. As in the previous data reported, the significant quadratic effects for LP are due to the responses of the nongainers, whose response tendancy is opposite to that of the gainers and high scorers, who tend not to differ. When the high scorers' responses are pooled with those of the nongainers', the gainers' responses appear quite different. The significant quadratic effects hence are misleading. Boys tend to report themselves as active-positive while the teacher evaluated the girls as more active-positive (reporter x sex interaction, $F_{1/21} = 8.95$, $p < .01$).

D. Self-Peer Evaluation The self-peer evaluation represents another behavioral dimension that was hypothesized

to be related to learning potential status. High scorers and gainers were hypothesized to compare themselves less negatively to their peers than nongainers.

In the present study, Ss were asked to give the first names only of their three best friends. After the names were recorded, S was asked: (1) "Who is a better student? You or X? You or Y? You or Z?; (2) Who studies more in school and at home? You or X? You or Y? Your or Z?; (3) Who has more motivation...and by motivation I mean who wants more to succeed in everything he is doing in school, or anywhere else, and is willing to work really hard in order to succeed. Who has more motivation? You or X? Your or Y? You or Z?"

The S that answered "I am" (better student, study more, or have more motivation) received a score of 2; "He is (my friend is a better student, he studies more, or has more motivation) received a score of 0; and "the same" received a score of 1. The scores for the three friends per category were summed, giving a score range of 0 to 6.

The scores for the three variables "students," "study" and "motivation" were separately analyzed in an analysis of variance design in which LP status (three levels) and sex (two levels) constituted the between groups variables with CA and IQ as covariates. The two degrees of freedom associated with LP status were analyzed separately for the linear and quadratic components.

The linear component of learning potential status was significant for "motivation" ($F_{1/2} = 8.90$, $p < .01$) and tended toward significance for "study" and "good student" ($F_{1/21} = 3.57$, 3.58, $.05 < p < .10$, respectively). Males reported themselves to be more motivated to succeed than girls did (Sex main effect, $F_{1/21} = 5.19$, $p < .05$). High scorers tended to see themselves as superior to their peers, while nongainers tended to see themselves as inferior to their peers. This conclusion may be interpreted in one of two, or both of the following interpretations:

1. Self-peer evaluation is a way of describing self image. Thus, the self image of the high scorers is more positive than the nongainers.

2. High scorer children may have compensatory needs which may be reflected in their responses. Non-gainer children may have already accepted their stigma and concede the point.

Discussion

Consonant with the findings of Budoff and Pines (1970) that the more able EMRs by the learning potential criterion tended to manage a minor behavioral frustration more adequately than the less able nongainers, verbal inquiries at an increasing level of indirectness indicates a similar pattern of responses. The more able (LP) Ss tend to offer more responses to hypothetical frustrations which suggest active socially acceptable efforts to cope with the frustrations and fewer instances in which they passively accept the frustrating situation. This pattern of active-positive coping was most characteristic of the gainers, whose positive response to training on the Kohs block designs tend to define an accessibility or amenability to help. This stance has often defined itself on personality and performance measures by a desire to try, to be positively oriented towards others, especially adults (Folman, 1969). High scorers seem less oriented in this manner. However, the major distinctions in these data are between the nongainers, who tend to take the most passive and/or negative coping stance toward the frustrating situations, and their high scorer and gainer peers.

When one combines this major finding from the questionnaire and sentence completion items with the tendency to see oneself as less adequate than those one cites as friends, and to be an inconsistent responder, one obtains a picture of the nongainer as a whimsically verbal individual who seems not to be able to manage himself very

well under stress. In the behavioral frustration experiment, the performance of these same nongainers following the mirror tracing frustration was initially very adequate. They made very few errors for the first and second trials but then showed a dramatic increase in errors with little recovery in performance manifested by the sixth trial. The higher frequency of passive responses evident in these verbal data suggests that they seem aware of their relative incapacity but behaviorally try to present an adequate cover which they seem unable to sustain. They also verbalize the most negative responses toward school and peers. By contrast, the more able (LP) Ss verbalize actively coping with the frustration on the behavioral and these verbal tasks, and judging themselves as good as or more competent than their peers. The high scorers are most positive (active) toward school and feel least positive toward peers. Gainers take a predominantly active-positive stance in all the areas.

These findings of differences on personality variables supports the differences reported previously by Folman & Budoff (1970) in an interview situation, and Harrison and Budoff (1970) to a self-report inventory. Interestingly, in the interview nongainers tended to respond inconsistently to questions in a series that proceeded from general to specific, a result confirmed more systematically in this study. On the self-report inventory, they tended to report themselves as more neurotic than the high scorers and gainers.

These motivational differences particularly between high scorers and gainers on the one hand and nongainers on the other, described initially on an ability dimension of response to learning potential assessment, indicate more pervasive differences among this supposedly psychometrically homogeneous population.

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Footnotes

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Table 1

Means and Standard Deviations for CA and IQ of the Special Class Study Sample Subdivided by Learning Potential Status

	High Scorers	Gainers	Nongainers
CA in Months			
Mean	164	162	162
S. D.	17.97	18.24	21.56
I Q			
Mean	73	72	71
S. D.	5.47	6.55	5.38

Table 2

Summary of F-Ratios Obtained in Analysis of Variance of the Responses to a Questionnaire Relating to Reaction to Frustration (With CA & IQ as Covariates)

		Passive		Active	
	df	Positive	Negative	Positive	Negative
Between Ss	26				
LP linear	1	17.04**	10.16**	.27	37.38***
LP quadratic	1	8.50**	15.58**	1.65	54.03***
Sex	1	8.98**	5.14*	9.34**	7.28*
LP_{lin} x Sex	1	.70	1.74	.93	2.22
LP_{quad} x Sex	1	3.54	.45	5.71*	7.93*
Error, between	21	.996	1.590	1.094	1.542
Within Ss	136				
Content Area (C)	2	2.56	8.01**	5.13**	7.21**
Open vs Closed (D)	1	.02	5.54*	1.24	1.13
LP_{lin} x C	2	8.59**	2.62	.80	3.95*
LP_{quad} x C	2	1.21	2.53	1.05	1.19
LP_{lin} x D	1	.22	.93	.17	.01
LP_{quad} x D	1	4.34*	.51	.30	1.73
C x D	2	1.05	.49	.95	2.14
Sex x C	2	1.87	2.91	.95	.11
Sex x D	1	.06	.01	.00	.08
Error, within	107	.376	.491	.496	.787

* $p < .05$
** $p < .01$
*** $p < .001$

Table 3

Total Number of Responses Given by Ss, Subdivided by Learning Potential Status, Coded Category, Open Versus Closed Ended Questions and Content Area

(N = 5 per area)

	High Scorer		Gainer		Nongainer	
	Open	Closed	Open	Closed	Open	Closed
School Related Questions						
Active-Positive	32	35	37	34	14	16
Active-Negative	7	6	7	4	7	2
Passive-Positive	2	4	1	3	10	11
Passive-Negative	4	0	0	4	14	16
Friend Related Questions						
Active-Positive	22	22	31	31	12	14
Active-Negative	11	9	8	7	11	10
Passive-Positive	6	12	5	4	11	14
Passive-Negative	6	2	1	3	11	7
Parent Related Questions						
Active-Positive	27	23	35	32	14	13
Active-Negative	10	6	7	4	5	7
Passive-Positive	6	11	1	6	16	19
Passive-Negative	2	5	2	3	10	6
Total Responses (pooled over areas)						
Active-Positive	81	80	103	97	40	43
Active-Negative	28	21	22	15	23	19
Passive-Positive	14	27	7	13	37	44
Passive-Negative	12	7	3	10	35	29
	135	135	135	135	135	135

Table 4

Summary of F-Ratios Obtained in Analysis of Variance of the Response to Sentence Completion Items Relating to Reaction to Frustration (With CA & IQ as Covariates)

	df	Passive Negative	Passive Positive	Active Negative	Active Positive
Between Ss	26				
LP linear	1	30.23***	.28	5.69*	16.30**
LP quadratic	1	34.94***	.52	.04	25.42***
Sex	1	.00	.66	13.78**	2.51
LP_{lin} x Sex	1	1.03	.35	6.47*	.01
LP_{quad} x Sex	1	.26	3.17	2.13	.79
Error, between		1.646	.557	.16	2.00
Within Ss	81				
Content Area (C)	3	1.66	4.15**	5.26**	1.94
LP_{lin} x C	3	2.83*	1.03	.77	1.62
LP_{quad} x C	3	1.39	1.51	.07	.75
Sex x C	3	2.43	.26	.09	2.19
LP_{lin} x Sex x C	3	.79	2.24	1.59	1.08
LP_{quad} x Sex x C	3	2.14	1.2[illegible]	.94	1.33
Error, within	63	.793	.360	.258	.834

* $p < .05$
** $p < .01$
*** $p < .001$